

We claim:

1. In a process for producing activated carbon adsorbant structures using resin binders to bond the activated charcoal particles, the improvement comprising:
 - (a) preparing a substantially homogeneous particulate mixture by combining 5 to 30 weight percent polyolefin resin powder having an average particle size between 5 and 125 microns and 70 to 95 weight percent particulate activated carbon;
 - (b) introducing the particulate mixture prepared in step (a) into a microwave transparent container;
 - (c) exposing the container containing the particulate mixture to microwave radiation to increase the temperature of the activated carbon 3 to 30°C above the crystalline melting point of the polyolefin resin;
 - (d) compacting the particulate mixture to increase contact between the particles; and;
 - (e) lowering the temperature of the particulate mixture below the melting point of the polyolefin while maintaining point bond formation conditions.
2. The process of Claim 1 wherein the polyolefin resin is an ethylene homopolymer or copolymer.
3. The process of Claim 2 wherein the polyolefin resin has a crystalline melting point from 50 to 200°C and melt index from fractional to 1000 g/10 min.
4. The process of Claim 3 wherein the polyolefin resin is a nonpolar polyolefin.
5. The process of Claim 3 wherein the polyolefin resin is polyethylene.
6. The process of Claim 3 wherein the polyolefin resin is a copolymer of ethylene and propylene.
7. The process of Claim 3 wherein the polyolefin resin has a crystalline melting point from 90 to 170°C and melt index from 1 to 200 g/10 min.
8. The process of Claim 1 wherein the average particle size of the polyolefin powder is 7 to 60 microns.
9. The process of Claim 1 wherein the polyolefin powder is a microfine polyolefin powder wherein the particles are spheroidal or substantially spheroidal in shape.

10. The process of Claim 1 wherein the activated carbon is a granular activated carbon having an average particle size of 5 to 500 mesh.
11. The process of Claim 1 wherein the particulate mixture comprises 75 to 92.5 weight percent activated carbon and 7.5 to 25 weight percent microfine polyethylene powder.
12. The process of Claim 1 comprising the additional step of separating and removing the bonded structure produced in step (e) from the microwave transparent container.
13. The process of Claim 1 wherein the microwave transparent container is constructed from a polyolefin or polyamide.
14. The process of Claim 1 wherein the container and particulate mixture are exposed to microwave radiation for a period of 10 seconds up to 4 minutes.
15. The process of Claim 1 wherein a pressure of from 2.5 to 40 psi is applied for a period of from 10 seconds to 30 minutes to compact the particulate mixture.
16. A point bonded activated carbon adsorbent structure produced by the process of Claim 1.
17. A point bonded activated carbon adsorbent structure produced by the process of Claim 12.